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Evaluating the Constructive or Destructive Role of PowerPoint in Accounting Education

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ABSTRACT

Objectives:With change in technology teaching methodology also changed and technology penetrates into the class rooms. The most commonly used computer aided teaching methodology in class rooms is PowerPoint presentation. It replaces the traditional method of teaching i.e. whiteboard and marker. This research focus to investigate the effect of PowerPoint presentation on student' performance.

Methodology:We choose 282 students studying accounting courses in various universities of Multan, Pakistan. We used SPSS and Microsoft Excel to analyze the data.

Result:We found that PowerPoint has negative impact on the student's performance. But on the other hand, students feel tiresome with traditional method of teaching. Students prefer to take quantitative courses via traditional method, and they prefer to take qualitative courses by PowerPoint presentation.

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1. Introduction

In the past many decades lectures on quantitative subjects were delivered on the white board, blackboard. With rapid change in technology, these methods are replaced slowly by modern methods of

teaching like transparencies, PowerPoint slides, etc. Technology penetrates into the classrooms and become an important part of classroom (Thomas, 2002, p. 1). The use of computer in education increases and this leads to the utilization of 'Microsoft Office' package programs. It serves as a supporting tool in classrooms (Kahraman, Cevik, & Kodan, 2011).

The most common and highly used technology in classrooms to project information is from computer into the screen via Microsoft PowerPoint (McCannon & Morse, 1999). According to the Microsoft over thirty million presentations per day take place worldwide, about 250 million computers in the world have PowerPoint software (Amare, 2006).

There are three basic reasons for the high usage of PowerPoint (PPT) in classrooms. The first reason is that there is high pressure on teachers for publications and administration. Due to this pressure they simplify their teaching methodology and put less effort and time on lecture preparation. The second reason is that professional publishers of these PPT slides facilitate and serve instructors by providing ready made slide presentation. The third reason is the appreciation from students who prefer the availability of lecture notes. They don't put effort to make these notes. Furthermore, these students give high marks while evaluating the course and teaching methodology, so, they put pressure on instructors to make, distribute and use PPT slides in the classroom (Apperson, et al., 2006; Frey & Birnbaum, 2002; Gabriel, 2008; Harknett & Cobane, 1997; Nouri & Shahid, 2005; Nouri & Shahid, 2008; Jordan & Papp).

The concept of modern teaching methodology, specifically PPT is based on Dual coding theory formulated by Allan Paivio (1986). The assumption of this theory is that the learning efficiency can be enhanced if the information is presented by two different but supporting methods. One method encodes the verbal information like text and the other encodes the non-verbal information like visual or voice presentation. So, it becomes easier to remember that information which one can read and hear than those which is coded in only one channel (Akkoyunlu & Yilmaz 2005; Selimoglu, & Arsoy, 2009). Edward Tufte (2003) has argument against use of PPT. He views that PPT spoil the quality and reliability of information. Moreover, New York Times published an article with title "PowerPoint Makes You Dumb" (Thomson, 2003) and Fortune 500 Company restricted the practice of PowerPoint in presentations (Numberg, 1999). Despite of all these arguments against PPT, this method is extensively adopted in educational institutions because of its benefits, ease and time saving.

PowerPoint presents information in an organized, attractive, easily remembered way to the audience (Boyce, 1999). Nouri & Shahid (2005) found that student's attitude toward PPT presentation were positive. They also conclude that when PPT presentations are appropriately prepared, it affects the short term memory of students. Hashemi, Azizinezhad, & Farokhi, (2012) found that PPT have no impact on long term memory of students. Contrary to this, Rosenthal *et al.* (2003) compared classes using PowerPoint presentations with those that are teacher centered classes. Their results were based on students' academic success. They found no significant difference between the two teaching methodologies.

Consequently, researches were conducted to dig out the effects of PPT method of teaching on student's success and attitude. Some of these studies focus on the effectiveness of PowerPoint presentations in classes, in comparison with black/whiteboard and overhead projector use (Kahraman, Cevik, & Kodan, 2011). Rankin and Hoaas (2001) found PPT have no significant impact on student's performance. Moreno and Mayer (2000) found that PPT presentations had a negative effect on student performance. Bartsch & Coben (2003) reveals that PPT presentation has a negative effect on students' performances. But on the other hand students state that they learn more in the courses taught with PowerPoint (Bartsch, Cobern, 2003; Uz, Orhan, & Bilgic, 2010).

Many studies undertaken by researchers concludes that students believe by using PowerPoint in classrooms make easier for them to learn (Szabo, & Hastings, 2000; Mantei, 2000; Rankin, & Hoaas, 2001; Apperson, Laws, & Scepansky, 2006; Beets, & Lobingier, 2001; Kahraman, Çevik, & Kodan, 2011). Literature showed that PPT make efficient use of class room time as compared to traditional way of teaching on such as whiteboard and transparencies (Mantei, 2000; Daniels, 1999). Students expresses that classes taught with PPT are more interesting because it include visual elements (O'Dwyer, 2008).

In a educational literature, there is common debate whether PowerPoint is useful to students and in what way it affects their performance. The question "how does powerpoint affect students?" remains unanswered. For this purpose, many research studies have been done in advanced countries and yield mixed results, however very few studies investigated in the developing countries like Pakistan. Hence, this study empirically test the impact of the PowerPoint presentation on students performance and attitude in Pakistan for filling the gap in literature.

The research objectives are to investigate:

1. The effect of the two teaching methods on resources understandability.
2. The effectiveness of the two teaching methods on the learning process.
3. Attitudes of the students towards the two diverse teaching methods used.
4. Preferences of the students for the two different teaching methods.
5. For gauging the impact of the two different teaching methods on students performance (i.e., grade).

2. Literature Review

Increase in number of admissions every year has brought changes in both administration and academic systems. Availability of technology has facilitated in various aspects, however. Quality in education in institutions is more inevitable now (Akdağ & Tok, 2008). Most of the faculty is now moving toward computer aided lectures instead of traditional teaching technique and have developed paperless classrooms (Navarro, 1998). Widely used PowerPoint presentations in the classrooms have become an emerging topic for researchers of various countries. Many scholarships have addressed the effectiveness of PowerPoint usage and contributed to literature. Some researches focused the effectiveness of PowerPoint presentations on the attitude of students while, other focused the difference of success of the students in relation to the lectures delivering teaching methodology (Selimoglu & Arsoy 2009).

A PowerPoint presentation is a complicated mix up of text and graphics having advanced software features and real-time interaction with the audience (Farkas, 2008). PowerPoint method has both advocates and opponents. Daniels (1999) and Mantei (2000) argued that PowerPoint is considered more beneficial as it is an efficient and time saving strategy as compared to writing on boards. By using PowerPoint slides, time of writing on the board can be saved and the lecture flows in well way. The key characteristic of PowerPoint is that it offers complete base for presentation. It gives order to the lecture (Hlynka & Mason, 1998) and makes it more convenient for lecturer to present brief summaries (Lowry, 1999). It might be effective on the extent of learning of students from lectures delivered. It depends upon the understandability of the material conveyed (Miller & McCown, 1986) and students' extent of retention of that material (Garner, 1992 and Susskind 2005). Furthermore, PowerPoint presentations have another advantage of visual attraction due to containing strong colors, designing of text, animated diagrams and ease to edit and updating of slides according to requirement. Thus they provide substantial energy and time savings (Lowry, 1999; El Khoury and Mattar 2012). Cited in Boyce (1999) that computer assisted technique enable more effective learning by facilitating the understanding of accounting interrelationships and accounting concepts (Holley, 1995; Stewart & Howard, 1988; Borthick & Clark, 1986, 1987; Helmi, 1986; Wu, 1984; Bhaskar, 1982; Throckmorton & Talbot, 1978;

Hawkins & Allen, 1967).

Evan's (1998) gave empirical evidence of students' better performance by learning through PowerPoint slides. He tested by conducting pilot study of 161 students taking a General Psychology course found that students performed better (roughly 4 percentage points) with *PowerPoint* presentations as opposed to lectures with overhead transparencies, and those students liked *PowerPoint* better than transparencies (Amar, 2006). On the other hand, researches have also shown weaker support for this particular teaching style. As Pippert and Moore (1999) argued by using PowerPoint, students displayed some dissatisfactory behavior about the interaction of classroom. Studies have also refuted that PowerPoint decreases the interaction between teacher and students and often makes the students sleepy due to lack of concentration (Parks, 1999). It depersonalizes the class environment (Sammons, 1995; Bawaneh, 2011).

One study showed a decrease in performance of students when the instructor switched from transparencies to PowerPoint (Bartlett, Cheng and Strough, 2000; Bartsch and Cobern, 2003). For better performance of students, graphics used in presentation must be relevant and explaining the concept (Bartsch&Cobern, 2003; Holzl, 1997; Mayer, 2001; Seaman, 1998). According to Bartsch&Cobern (2003), inclusion of irrelevant graphics in slides caused a decrease in performance of students on quizzes (Apperson, Laws and Scepansky 2008). Steven Strand an academic administrator from University of California at Los Angeles in the life sciences curriculum program shared his experience, according to him, when he started sharing and uploading PPT on the Web, attendance of the students dropped by 20% (Young, 2004; El Khoury and Mattar, 2012). Şengün and Turan (2004) identified that students are significantly inclined to PowerPoint presentations considering it more suitable for physical geography subjects within geographical discipline (Can, Karaca, Akyel, and Demirci, 2012). Amare (2006) stated that performance of students was higher who taught by using traditional methodology, although some of the students emphasized on the use of PowerPoint. The same results found by Sosin et al., 2004; Bawaneh, 2011).

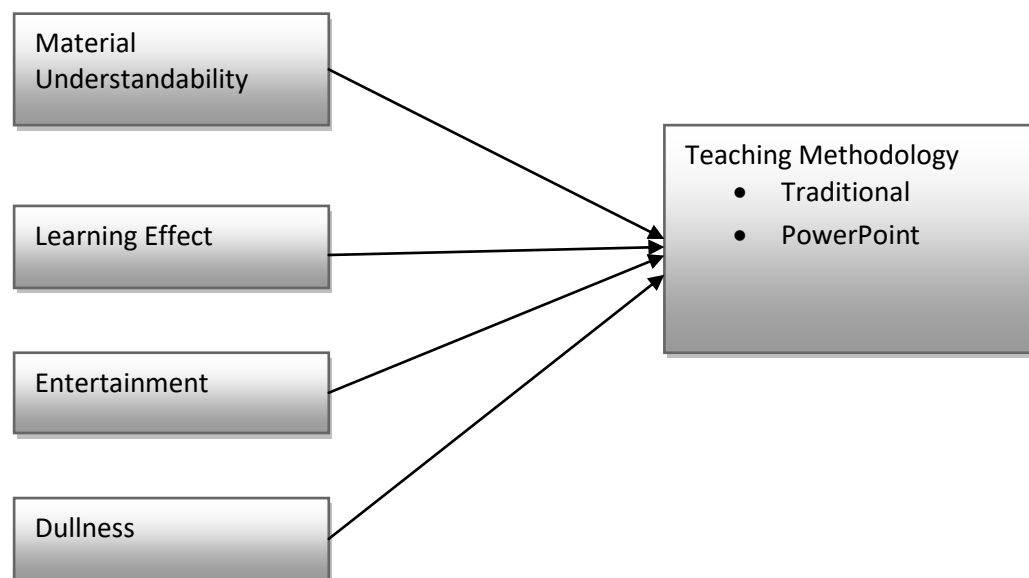
Some research studies (e.g. Apperson et al. (2008), Albrecht & Sach (2000) and Perry & Perry 1998), researchers concluded that delivering accounting lecture through multimedia e.g. PowerPoint increased students' interest and motivation for the course (Can, Karaca, Akyel, and Demirci, 2012). PowerPoint motivates the students to attend the lessons (James vd 2006: 387, Sugahara and Boland 2006: 396, Bawaneh, 2011). Savoy et al. (2009) identified that preference for lecturing technique varies by the nature of the course. In condition where the course contains complex graphs, animations and figures, the students preferred lecturing through PowerPoint presentation and considered it advantageous. On the other hand, it was demonstrated the preference of students for the traditional method and for PowerPoint slides in the situation where the course contains numerical information. One empirical study conducted by managerial accounting course given to two groups by PowerPoint and on the blackboard. Results showed PowerPoint presentations developed positive attitude of students towards the lecturer and the lesson (Selimoglu and Arsoy 2009).

Çankaya&Dinç (2009) found that the students who were taught through PowerPoint were more successful in academic performance than the students who were lectured by classical method. Additionally, when students' perception regarding to accounting course was analyzed, it uncovered the students who were taught by PowerPoint felt that course more attractive, enjoyable and relaxing. They found it more beneficial. The students who were lectured in the classical manner, found the course more tedious, boring and more tiresome than the other group (Can, Karaca, Akyel and Demirci 2012).

Summarizing above literature, mostly existent studies showed positive attitude of students' towards PowerPoint opposing to traditional teaching method, through no considerable difference in performance (El Khoury, and Mattar, 2012). Research regarding the effectiveness of lecturing through PowerPoint on

academic performance has demonstrated mixed results. Some scholars found it increases performance of students (Mantei, 2000; Kask, 2000, female students; Lowry, 1999; Szabo and Hastings, 2000, Exp. 2) whereas others have found no effect (Daniels, 1999; Kask, 2000, male students; Rankin & Hoaas, 2001; Szabo & Hastings, 2000, Exps. 1 & 3; Boyce, 1999). Key objective of this paper is to explore the differences in the accounting students performance and attitude toward the two different teaching methods i.e. PowerPoint presentations and traditional writing on board technique.

Conceptual Model



3. Methodology

This is quantitative research based on a concept of effectiveness of two different teaching methods i.e. Traditional (on the board) and PowerPoint (through multimedia). The attitude of students toward these two teaching methodologies is measured by questionnaire based on items related to these two styles. Scale was adopted from previous study (El Khoury, and Mattar, 2012). Five-point Likert scale is used from 1 to 5, going from strongly disagree to strongly agree and by taking 3 as a neutral option. Data was analyzed by using SPSS version 20 and Microsoft Excel.

We have taken three courses of accounting to study the effect of two different styles, which are financial accounting, cost accounting and managerial accounting. Data is collected from the students of various universities of Multan. Through questionnaire we tried to ask them their preference to study these courses. And by which method they are more convenient.

We have taken the sample of 282 students. We are intending to do analysis of our data through SPSS. We have adopted cross sectional design, under which at the end of questionnaire we have asked the students their GPAs in three courses and overall GPA. We also have asked them their preference between the two teaching styles by giving the two options, and the methodology adopted by their instructor. Hence we adopted purposive sampling technique.

Our research questions are:

1. Is there any difference between the impacts of the two teaching methods on materials understandability?
2. How much is the effectiveness of the two teaching methods on the teaching/learning process?

3. What is attitudes of students towards the two teaching methods applied?
4. What is preference of students for the two teaching methods?
5. What is the effect of the two teaching methods on students' performance (i.e., grade)?

4. Analysis

Table 1 presents the demographic characteristics of sample. Out of 282, 59.9% were male, while 40.1% were female.

Table 1		
	Frequency	Percent
Male	169	59.9%
Female	113	40.1%
Total	282	100%

Table 2 (a) shows that 34% of students in sample study financial accounting with PowerPoint, and remaining 66% study with whiteboard and board marker.

Table 2(a) : Financial Accounting teaching methodology	
	Percent
Traditional	66%
PowerPoint	34%
Total	100%

Table 2 (b) shows that 21.6% of students in sample study cost accounting with PowerPoint, and remaining 78.4% study with traditional method.

Table 2(b) : Cost Accounting teaching methodology	
	Percent
PowerPoint	21.6%
Traditional	78.4%
Total	100%

Reliability Analysis

Cronbach's alpha was used to measure the reliability of the test. This study used Cronbach's alpha to evaluate the internal consistency of questionnaire administered to students. Alpha values range from 0 to 1. George and Mallery (2003) provide the following rules of thumb: "Cronbach's alpha > .9 – Excellent, Cronbach's alpha > .8 – Good, Cronbach's alpha > .7 – Acceptable, Cronbach's alpha > .6 – Questionable, Cronbach's alpha > .5 – Poor, and Cronbach's alpha < .5 – Unacceptable" (p. 231)[16]. Alpha value of traditional method was found to be .889, which reflects high questionnaire internal consistency. Alpha value of traditional method was found to be .891, which high questionnaire internal consistency (Appendix A)

Factor Analysis

On different statements describing traditional teaching methodology factor analysis was conducted. Table 3(a) in appendix A shows that material understandability was highly correlated with question "TM makes materials clear". The second factor effectiveness of teaching and learning process was highly

correlated with “TM challenges me to think on topic”. The third factor entertainment was highly correlated with “TM is entertaining (using board, discussion)”. Similarly, the fourth factor dullness was highly correlated with “TM is tiresome”. KMO was measure of sampling adequacy its value was 0.861. Bartlett's Test of Sphericity also shows significance.

Table 3(b) shows the variance explained was 57.68%. We can use these four components to reduce the complexity of the data with 42.32% loss of information.

On different statements describing modern teaching methodology i.e. PowerPoint, factor analysis was conducted. Table 4(a) shows that material understandability was highly correlated with question “PPT makes materials better understood”. The second factor effectiveness of teaching and learning process was highly correlated with “PPT is more efficient in problem solving”. The third factor entertainment is highly correlated with “PPT makes materials enjoyable (as I understand more easily). Similarly, the fourth factor dullness is highly correlated with “PPT is tiresome”. The sampling adequacy measure KMO shows value of 0.873. Bartlett's Test of Sphericity shows significance with value “zero”. Table 4(b) shows the variance explained was 59.405%. We can use these four components to reduce the complexity of the data with 40.595% loss of information.

Mean and t-test

Means calculated for two different groups of data i.e. “Traditional” and “PowerPoint”. This method was used to check that, what is the impact of teaching methodology on student’s material understanding, assess effectiveness of the teaching/learning process, and whether the attitude toward it is positive or negative.

Table 5 in appendix A shows that all the statements under factor one (material understandability), show significant variance for “PPT” and “Traditional” method of teaching. In factor two (Effectiveness of the Teaching/Learning process) five statements –“ TM makes note taking easier”, “TM challenges me to think on topic”, “TM stimulates critical thinking”, “TM allows greater interaction with topic”, and “TM helps me to learn” did not show significance variance for Traditional and PPT method of teaching”. In factor three which is entertainment, all statements show significance variance for “PPT” and “Traditional” method of teaching”. In fourth factor (Dullness), one statement “TM is tiresome” don’t show significance for “TM is tiresome”.

Student’s preferences

Students were asked about their preferences of teaching methodology in qualitative as well as quantitative courses. They were also asked about their preferences of teaching methodology of financial and cost accounting. Table 7 shows that 60.6% of students choose qualitative courses to be taught by PowerPoint, and 39.4% students prefer traditional method of teaching for qualitative courses.

Table 7 : Preferences of qualitative course teaching method	
	Percent
Traditional	39.4%
PowerPoint	60.6%
Total	100%

Table 6 shows that 72% of respondents prefer studying quantitative courses by traditional method, while 28% prefer PowerPoint.

Table 6 : Preferences of quantitative course teaching method	
	Percent
Traditional	72%
PowerPoint	28%
Total	100%

Table 8 and 9 shows the students preferences in financial and cost accounting. Table shows that 65.3% students of financial accounting and 73.5% students of cost accounting prefer traditional method of teaching while only 34.7% students of financial accounting and 26.5% students of cost accounting prefer PowerPoint method of teaching.

Table 8 : Preferences of Financial Accounting teaching method	
	Percent
Traditional	65.3%
PowerPoint	34.7%
Total	100%

Table 9 : Preferences of Cost Accounting teaching method	
	Percent
Traditional	73.5%
PowerPoint	26.5%
Total	100%

Table 10 : Preferences of Managerial Accounting teaching method	
	Percent
Traditional	69.9%
PowerPoint	30.1%
Total	100%

Effectiveness

Table 10 in appendix A shows the effectiveness of two teaching methodologies in each of three courses. The table shows that most students indicate that teaching methodology adopted is satisfactory.

Regression

Regression was run to measure the impact of independent variables-students final grade in financial accounting, teaching methodology, gender, overall GPA, and students' final grade in cost accounting. Teaching methodology and gender are dummy variables. Table 10 shows the regression when taking GPA cost accounting as independent variable.

Table 12: Regression

	Standardized regression coefficients B	Standard error	t	Sig.	R square	Adjusted R	F-stat
Constant	3.00	0.39	7.75	0.00	0.03	0.02	0.05
Gender	-0.35	0.14	-2.41	0.02			
Teaching methodology	0.34	0.16	2.08	0.04			
Financial accounting GP	0.00	0.08	0.06	0.95			
GPA	0.07	0.08	0.84	0.40			

The table 12 shows positive value of coefficient of teaching methodology. This positive value shows that PPT has positive impact on student's performance. The results also show that, teaching methodology and gender correlate with student's performance. The value of adjusted r square shows that dependent variables explained only 2% of variance in student's performance.

Table 13: Regression							
	Standardized regression coefficients B	Standard error	t	Sig.	R square	Adjusted R	F-stat
Constant	2.05	0.27	7.81	0.00	0.17	0.16	13.99
Gender	-0.05	0.11	-0.49	0.63			
Teaching methodology	-0.00	0.12	-0.02	0.98			
Cost accounting GP	0.07	0.02	3.36	0.00			
GPA	0.39	0.06	6.46	0.00			

Table 13 shows the regression when taking GPA managerial accounting as independent variable. The table shows negative value of coefficient of teaching methodology. This negative value shows that PPT has negative impact on student's performance. The results also show that, GPA and teaching methodology correlate with student's performance. The value of adjusted r square shows that dependent variables explained 16% of variance in student's performance.

5. Results And Conclusion

The responses of students show that traditional method has greater material understandability as compare to PPT. The finding of this study contradicts to Nouri and Shahid (2005), which shows more understanding with PPT. The results shows that using traditional method makes lectures more organized, easier to understand, more clearer, concise, and need less effort at home. The results supported by previous research conducted by Hashmezadeh and Wilson (2007). The finding of Hashmezadeh and Wilson was same as traditional method of teaching make material easy to understand.

Moreover, students when taught with PowerPoint spend less time in notes taking as they can get material discussed in class. The instructor can cover more content in less time, this results in lower level of material understandability. On the other hand, when students are taught with white board they have more time to analyze and decide which note to note. They can better understand material in class due to low speed of instructor and pauses during the teacher write on board. The results of this study also prove that less effort is needed at home when taught with traditional method of teaching in class. The results also shows that students have perception that when instructor use PPT in class they put less effort and this reduces the student's attention and interest in class (table 5-b).

The second factor of effectiveness of teaching/learning process shows significance difference between two teaching styles except four statements as mentioned in table 5. The results of this study reveal that there is a significant difference in student's attitude toward lectures delivered using traditional methodology. Students perceive that in traditional way there is a room for participation while, in PPT, the lecture was preplanned and student hesitate to interrupt the teacher. Hlynka and Mason (1998) mention that there is less interaction between student and teacher due to sequence of slides. Parks (1999) concludes that the presentation via PPT make students in U.S Universities to sleep, this may be due to dim light. While traditional method give chance to students as well as to teachers to discuss the material and interact with each other. This results in more student engagement in class. Pippert and Moore (1999) also supported that the use of PPT in class might lower the quality of interaction between teacher and student.

The third and fourth factor is related to the student's attitude. These are entertainment and dullness. The results of this study suggest that there is a significant difference between traditional method and PowerPoint presentation. Students found traditional method as more entertaining as it encourage class participation and on the other hand PPT makes students sleep in class. Earlier studies found opposite results. They found PPT as more entertaining method of teaching (Butler and Mautz 1996; Nouri and Shahid, 2005).

Students perceive PPT as more boring and tiresome. They perceive that the material in slides is important and they don't pay attention to what teacher discuss in class as they can get slides. These factors make PPT more boring and tiresome. The results reveal that traditional method is more tiresome as students have to be attentive in class and participate during lecture. Students have to make notes during class as they cannot get any material. They also filter the data during class as which material, example is important and make it easier at home to understand the concept at home. So, in traditional lecture students perform two functions. First, understanding material and concept delivered by instructor. And second, recording material by filtering the data because no hard or soft copies for the material distributed by the teacher.

The study shows that students prefer traditional method of teaching for quantitative courses in general and specifically accounting courses. While the prefer PPT for qualitative courses such as management, marketing, organization behavior etc.

To measure the impact on student's performance, regression was estimated by including all the dependent variables. The results shows that for the course of cost accounting PPT has a positive impact on student's performance but for the course of managerial accounting PPT has negative impact on student's performance. The results also shows that gender and teaching methodology correlates with the student's performance in cost accounting course, but on the other hand overall GPA and teaching methodology correlates with student's performance. So, it proves that teaching methodology affects the students' performance.

Implications, Future Research Directions And Limitations

This research helps instructors to understand the attitude of students and effectiveness of teaching methodology. They can avoid weaknesses of the medium to convey more effectively. This study is conducted in city of Multan Pakistan, on the students of private and government universities located there. It is generalizable in the context of southern Punjab. While more exploratory research can be done by taking sample of universities of upper Punjab and other provinces. We explored the effectiveness of the two styles in accounting discipline by taking data specifically on three courses of the accounting. Same objective can be applied for analyzing impacts in other disciplines i.e. qualitative and other quantitative courses. Broad level theoretical literature exists and differences can be analyzed between the two approaches whether lecturer can be benefited by the advantage of time saving, effective graphical representation and conciseness through the PowerPoint medium.

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Appendix A

Table 3 (a) : Rotated Component Matrix (traditional method)				
	Component			
	1	2	3	4
Material Understandability				
TM makes materials clear	.785			
TM makes materials easy to follow	.784			
TM makes materials better understood	.737			
TM makes materials presented in a way I understand better	.713			
TM makes materials quickly understood and needs less efforts at home	.669			
TM makes materials more organized	.657			
TM is more efficient with explaining theories	.614			
TM makes materials concise	.580			
Effectiveness of the Teaching/Learning process				
TM challenges me to think on topic		.722		
TM stimulates critical thinking		.654		
TM is more efficient in problem solving by using board		.647		
TM leads to more concentration on topic		.608		
TM allows greater interaction with topic		.579		
TM encourages class participation		.563		
TM helps me to learn		.462		
Entertainment				
TM is entertaining (using board, discussion)			.818	

TM makes materials enjoyable (as I understand more easily)			.799	
TM makes materials more interesting			.787	
Dullness				
TM is tiresome				.857
TM is boring				.833
KMO=0.861, Bartlett's Test of Sphericity Sig=0.000				

Table 3(b): Total Variance explained for the factors extracted(traditional method)						
Component	Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.785	33.925	33.925	4.450	22.252	22.252
2	1.846	9.230	43.156	3.046	15.230	37.481
3	1.679	8.393	51.548	2.367	11.836	49.317
4	1.228	6.139	57.687	1.674	8.369	57.687

Table 4 : Rotated Component Matrix(PowerPoint)				
	Component			
	1	2	3	4
Effectiveness of the Teaching/Learning process				
PPT is more efficient in problem solving.		.747		
PPT allows greater interaction with topic		.732		
PPT leads to more concentration on topic		.675		
PPT stimulates critical thinking		.610		
PPT challenges me to think on topic		.606		
PPT helps me to learn		.542		
PPT encourages class participation		.507		
Material Understandability				
PPT makes materials better understood	.755			
PPT makes materials quickly understood and needs less efforts at home	.682			
PPT makes materials clear	.613			
PPT makes materials concise	.605			
PPT makes materials presented in a way I understand better	.602			
PPT makes materials more organized	.591			
PPT is more efficient with explaining theories	.530			
Entertainment				
PPT makes materials enjoyable (as I understand more easily with help of slides, diagrams etc)			.842	
PPT is entertaining (using slides, diagrams, graphs)			.780	

PPT makes materials more interesting			.762	
Dullness				
PPT is tiresome				.923
PPT is boring				.891
KMO=0.873, Bartlett's Test of Sphericity Sig=0.000				

Table 4 (b): Total Variance explained for the factors extracted (PowerPoint)

Component	Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.392	36.960	36.960	3.777	18.886	18.886
2	2.069	10.347	47.307	3.624	18.121	37.006
3	1.269	6.346	53.653	2.690	13.451	50.458
4	1.150	5.752	59.405	1.789	8.947	59.405

Table 5: Means, standard deviation and sig. for the different statements describing the students' evaluation for the two different teaching methodologies: PPT and Traditional

		PPT Set#1 (n=282)		Traditional Set#1 (n=282)		t	Sig.
		Mean	Standard Deviation	Mean	Standard Deviation		
Factor 1	TM is more efficient with explaining theories	3.53	1.19	3.31	1.22	-2.17	0.03
	TM makes materials presented in a way I understand better	3.60	1.07	3.33	1.09	-3.04	0.00
	TM makes materials concise	3.79	1.02	3.12	1.07	-7.60	0.00
	TM makes materials easy to follow	3.91	1.08	3.50	1.11	-4.43	0.00
	TM makes materials clear	3.88	1.12	3.52	1.13	-3.82	0.00
	TM makes materials more organized	3.81	1.12	3.20	1.22	-6.11	0.00
	TM makes materials better understood	3.67	1.09	3.32	1.20	-3.68	0.00
	TM makes materials quickly understood and needs less efforts at home	3.59	1.19	3.23	1.27	-3.49	0.00
Factor 2	TM makes note taking easier	3.43	1.19	3.34	1.20	-0.85	0.40
	TM encourages class participation	3.59	1.08	3.35	1.19	-2.44	0.01
	TM challenges me to think on topic	3.60	1.16	3.52	1.07	-0.79	0.43
	TM leads to more	3.69	1.11	3.45	1.13	-2.52	0.01

	concentration on topic						
	TM stimulates critical thinking	3.33	1.13	3.31	1.16	-0.26	0.80
	TM is more efficient in problem solving by using board	3.30	1.13	3.73	1.01	4.82	0.00
	TM allows greater interaction with topic	3.49	1.07	3.66	1.07	1.81	0.07
	TM helps me to learn	3.62	1.15	3.71	1.09	0.98	0.33
Factor 3	TM is entertaining (using board, discussion)	3.99	1.02	3.27	1.29	-7.34	0.00
	TM makes materials enjoyable (as I understand more easily)	3.94	1.12	3.27	1.21	-6.83	0.00
	TM makes materials more interesting	3.98	1.01	3.28	1.20	-7.56	0.00
Factor 4	TM is tiresome	3.18	1.24	3.02	1.17	-1.57	0.12
	TM is boring	3.28	1.33	3.06	1.25	-2.02	0.04

Table 5(b)

		PPT Set#1 (n=282)		Traditional Set#1 (n=282)		t	Sig.
		Mean	Standard Deviation	Mean	Standard Deviation		
	This method enables the instructor to put less effort in class room	3.83	1.11	2.91	1.28	-7.98	0.00

Table 11

		Effectiveness of Financial Accounting Teaching Methodology						
		Method Adopted	Excellent	Very Good	Satisfactory	Less than Satisfactory	Poor	Total
Financial Accounting								
Power-Point	%age within effectiveness of Financial Accounting Teaching Methodology	34%	3.1%	15.6%	47.9%	17.8%	15.6%	100%
Traditional	%age within effectiveness of Financial Accounting Teaching Methodology	66%	17.8%	19.3%	41.4%	16.1%	5.4%	100%
Cost Accounting								
Power-Point	%age within effectiveness of Cost	21.7%	0%	23%	44.3%	18%	14.7%	100%

	Accounting Teaching							
Traditional	%age within effectiveness of Cost Accounting Teaching	78.3%	11.3%	28.5 %	41.2%	13.1%	5.9%	100 %
Managerial Accounting								
Power-Point	%age within effectiveness of Managerial Accounting Teaching Methodology	26.6%	13.7%	16.5 %	41.1%	16.4%	12.3 %	100 %
Traditional	%age within effectiveness of Managerial Accounting Teaching Methodology	73.4%	15.9%	18.8 %	49.9%	12%	3.4%	100 %